REMARKS

Reconsideration and allowance of the subject application are respectfully requested. By this Amendment, Applicant has canceled claim 3. Thus, claims 1, 2 and 4-15 are now pending in the application. In response to the Office Action (Paper No. 4), Applicant respectfully submits that the pending claims define patentable subject matter.

Applicant thanks the Examiner for indicating that claims 7 and 13 would be allowable if rewritten in independent form. However, Applicant respectfully requests the Examiner to hold in abeyance the rewriting of these claims until the Examiner has had the opportunity to reconsider the rejected parent claims in light of the arguments presented below in support of the Applicant's traverse of the rejection.

I. Preliminary Matters

Claims 4, 5, 7 and 11 are objected to due to grammatical informalities. By this Amendment, Applicant has amended the claims to improve clarity. Accordingly, the Examiner is requested to remove the objection to the claims.

The Examiner indicates that the application file does not include the revised Abstract filed the Preliminary Amendment on March 7, 2001. By this Amendment, Applicant has amending the Abstract.

II. Prior Art Rejections

A. Disclosure of Wang

Wang discloses a method and apparatus for detecting a supervisory audio tone (SAT) which is superimposed on a voice/data signal transmitted in a cellular telephone system. As shown in Figure 1, periodic samples of a received voice/data signal on which the SAT signal is superimposed are provided a complex mixer 12 which generates real and imaginary output signals which are each subjected to an 8:1 decimation by a separate one of a pair of decimators 14 and 16 and 5:1 decimation by a separate one of a pair of decimators 18 and 20. The effect of the 8:1 and 5:1 decimations on the complex mixer 12 output signals is to low-pass filter such signals and thereby effectively reducing the sampling rate and removing the voice/data portion of the sampled signal, leaving only the SAT signal portion.

The output signal of each of the decimators 18 and 20 is input to a second complex mixer 22. The real and imaginary output signals from the second complex mixer are output to a first processing path to determine the SAT signal power and a second processing path to determine the SAT signal noise power. The first processing path includes a pair of 5:1 decimators 24 and 26, a pair of low-pass filters 28 and 30, a summing block 32 and an infinite-impulse-response, low-pass filter 34 which yields an output signal indicative of the SAT signal power which yields an output signal indicate of the SAT signal power. The second processing path includes a pair of difference blocks 36 and 38, a summing block 40 and a finite-impulse-response and infinite-impulse-response, low-pass filter 42 which yields an output signal indicative of the SAT signal noise. The output signals of the filters 34 and 42, representing the SAT signal power and noise

power, respectively, are input to a comparator 44 which compares the SAT signal power to the noise power to determine if the SAT signal power exceeds the noise power of the SAT as occurs when the SAT is present.

B. Disclosure of Dapper

Dapper discloses a method and apparatus for reducing perceived distortion in an output audio signal derived from an amplitude modulated compatible digital broadcast signal having an analog portion and a digital portion. As shown in Figure 2, the digital portion of this signal is demodulated by a demodulators 16 to produce a demodulated digital signal (digital symbols) 18 which are corrupted by noise. A decision device 20 which estimates the transmitted data symbol sequence by examining the noisy symbols 18 from the demodulator 16. The output 22 of decision device 20 consists of a sequence of data symbols which are subtracted from the noisy input samples 18 to produce an error (noise) estimate 24 which is then squared in operation 26 to remove the error polarity information. After squaring, the error sequence is filtered or averaged in operation 28. Since the filtered error sequence is proportional to the variance of the noisy data samples 18, this renders the noise or interference power 30. Similarly, the output 22 of decision device 20 is squared in operation 32 and again averaged or filtered in operation 34. Since the filtered sequence is proportional to the mean square value of the data signal 18, this renders the signal power 36. Using the signal power 36 and noise power 30, an estimate of the per channel signal-to-noise ratio 38 is produced by computing the ratio of the mean squared symbol estimate 36 to the variance of the error sequence 30.

C. Analysis

Claims 1, 2, 8, 9, 11 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang (U.S. Patent No. 5,918,184). Claims 3-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Dapper et al. (U.S. Patent No. 5,809,065; hereafter "Dapper"). Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Arens et al. (U.S. Patent No. 5,301,364; hereafter "Arens"). Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Buternowsky et al. (U.S. Patent No. 5,809,090; hereafter "Buternowsky"). Claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Davidovici et al. (U.S. Patent No. 5,719,898; hereafter "Davidovici").

By this Amendment, Applicant has amended claim 1 incorporate the subject matter of dependent claim 3. Thus, claim 1 now requires that "the filtering of the noise signal comprises determining a noise value which is used to determine the signal-to-noise ratio based on a statistical distribution of noise power measurements for a predetermined period during which a statistically representative number of measurement samples is collected and which is sufficiently short for the noise signal to remain practically stationary."

Although the Examiner cites Dapper for disclosing these features, Dapper simply discloses an performing an averaging/filtering operation on the signal and the noise without specifying any details of the operation. Further, the Examiner's general allegations that these features would have been obvious in view of Dapper are not supported by the teachings of the

reference. Accordingly, Applicant respectfully submits one of ordinary skill in the art would not have been motivated to combine and modify Wang and Dapper to produce the invention of amended claim 1.

Further, Applicant respectfully submits that it is quite clear that the cited references do not teach or suggest that "the noise value is determined such that a probability that an instantaneous noise level exceeds that the noise value is less than a predetermined threshold during the predetermined period", as required by dependent claim 4, or that "the noise value used to determine the signal-to-noise ratio is a maximum value of the measurement samples over the predetermined period", as required by dependent claim 5.

In view of the above, Applicant respectfully submits that claims 1, 2, 4-6, 8-12, 14 and 15 should be allowable because the combined references do not teach or suggest all of the features of the claimed invention.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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